

## Executive Summary

California law requires urban areas to develop and update a “congestion management program” or CMP—that is, a plan that describes the strategies that will be used to address congestion problems. In Alameda County, the CMP is the responsibility of the Alameda County Congestion Management Agency (CMA), who must work cooperatively with the Metropolitan Transportation Commission (MTC), transit agencies, local governments, the California Department of Transportation (Caltrans) and the Bay Area Air Quality Management District (BAAQMD).

The succeeding chapters of the Congestion Management Program (CMP) for Alameda County describe the statutory requirements; Appendix A contains the full text of the pertinent sections of state law.

The CMP law places considerable authority with the congestion management agencies. The agencies are required to oversee how local governments meet the requirements of the CMP, for example. The legislation also forges a new relationship between local government and Caltrans by requiring new highway projects in urban areas to be included in a CMP if they are going to be part of the State Transportation Improvement Program. This means that funding of highway projects is now, in part, controlled by local government in the form of the congestion management agencies. With this authority comes the responsibility to recognize federal and state funding limitations and to work with Caltrans and MTC to formulate cost-effective projects.

The Alameda County CMP is designed to meet the challenges of the law. Furthermore, the CMA has developed working relationships with all levels of government as well as the private sector. The CMA is prepared to demonstrate that local governmental agencies, working together, can solve regional problems.

## THE TRANSPORTATION SYSTEM

The CMA must identify what is included in the system that is being monitored and improved (Chapter 2). For the purposes of the CMP, two different systems are used: the designated CMP (roadway) network, and the broader “Metropolitan Transportation System,” a regionally designated system created by MTC that includes both freeways and transit. The CMP network is a subset of the MTS. For purposes of the CMP, the former is used to monitor performance in relation to established level-of-service standards. The latter is used in the CMA’s land-use analysis program.

The CMP network includes state highways and principal arterials that meet minimum criteria (carry 30,000 vehicles per day; have four or more lanes; is a major cross-town connector; connects at both ends to another CMP route or major activity center). The result is a system of roadways that carries at least 70 percent of the vehicle miles traveled countywide. The CMP network contains 230 miles of roadways. Of this total, 115 miles (50 percent) are interstate freeways, 89 miles (39 percent) are state highways (conventional highways), and 26 miles (11 percent) are city/county arterials.

The Metropolitan Transportation System includes the entire CMP-designated roadway network together with major arterials, transit services, rail, maritime ports, airports and transfer hubs that are critical to the region’s movement of people and freight.

In order to be found in conformance with the CMP, local jurisdictions must by June 30, 2004, submit a list of potential CMP-designated routes based on spring 2004 24-hour counts.

## LEVEL-OF-SERVICE STANDARDS

To provide a method for measuring congestion, the CMA uses “level-of-service” standards as

defined in the Highway Capacity Manual nationally accepted guidelines published by the Transportation Research Board (Chapter 3). Level-of-service definitions describe traffic conditions in terms of speed and travel time, volume and capacity, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Level of service is represented by letter designations, ranging from LOS A to LOS F, with level-of-service A representing the best operating conditions and level-of-service F the worst.

The purpose of these standards is to provide a quantitative tool to analyze the effects of land-use changes, and to monitor one system performance measure (i.e., congestion). The CMA is required to determine how well local governments meet the standards in the CMP, including how well they meet level-of-service standards.

The CMA conducts a level-of-service monitoring study every two years. The next study will be done in spring 2002. The agency also has completed a program of studies on six high-priority corridors and is participating in studies on four more.

Overall traffic conditions for long-distance trips on the CMP freeway network have generally remained stable or improved since 1991, the first year of the CMP. Since the inception of the CMP, an overall trend or change can be interpreted from comparisons with the 1991 level-of-service data. There is some improvement in average traffic conditions (i.e., higher speeds) on these longer distance freeway trips over 1991 conditions. However, there are still congested points found along most of the routes. System capacity and operational enhancements account for improvements on some facilities.

At present, the CMA is contracting biennially with a consultant to monitor all segments of the CMP roadway system. If a local government or Caltrans assumes responsibility for monitoring roadways included in the portion of the CMP system under its jurisdiction, it will be required to do the following:

Biennially monitor the level of service on the designated system and report to the CMA by June 15 of each year relative to conformance with the adopted standards.

## **PERFORMANCE ELEMENT**

The CMA has developed performance measures to evaluate how highways and roads function, as well as the frequency, routing and coordination of transit services. The performance measures are intended to support mobility, air quality, land-use, and economic objectives and be used in the various facets of the CMP (Chapter 4).

Combined with roadway level-of-service standards, the performance element provides a basis for evaluating whether the transportation system is achieving the broad mobility goals in the CMP. These include development of the Capital Improvement Program, analysis of land-use impacts and the preparation of deficiency plans to address problems. For the 2001 CMP, implementation of the performance element will help the CMA prioritize projects for funding and development of management and operations strategies.

The following table lists the performance measures used in the CMP, along with the goals they help evaluate.

| Performance Measure   | Long-Term Goal  |
|---|---|
| • Average highway speeds  | • Improve mobility, air quality                       |
| • Travel time on transit, highways and high-occupancy vehicle lanes | • Improve mobility                                    |
|   | • Increase transit use                                |
|   | • Improve air quality                                 |
| • Duration of traffic congestion                                    | • Enhance economic vitality                           |
|   | • (Expedite freight movement)                         |
| • Roadway maintenance   | • Ensure serviceable operation of existing facilities |
| • Roadway accidents on freeways                                     | • Improve mobility                                    |
|   | • Ensure serviceable operation of existing facilities |
| • Completion of countywide bike plan                                | • Improve mobility, air quality                       |
| • Transit routing   | • Improve transit access                              |
|   | • Increase transit use                                |
| • Transit frequency   | • Improve transit access                              |
|   | • Increase transit use                                |
| • Coordination of transit service                                   | • Improve transit access                              |
|   | • Increase transit use                                |
| • Transit ridership   | • Increase transit use                                |
| • Transit vehicle maintenance                                       | • Ensure serviceable operation of existing facilities |

Using these measures, the CMA prepares an annual transportation performance report for review by local agencies and transit operators prior to publication. To minimize cost, the CMA relies on established data collection processes and regularly published reports for data.

A list of established data collection efforts, by agency, follows:

### Cities and County

- Pavement Management System (PMS) data for the Metropolitan Transportation System (except Albany and Oakland)

- Countywide Bicycle Plan (County Public Works Department and CMA)

### Transit Agencies

- Service Schedules, On-Time Performance
- Transit Ridership Routing (percentage of major centers served within 1/4-mile of a transit stop)
- Frequency (number of lines operating at each frequency level)

- Service Coordination (number of transfer centers)
- Average Time Between Off-Loads (BART)
- Miles Between Mechanical Road Calls (AC Transit, LAVTA and Union City Transit)  
Mean Time Between Service Delays (BART and ACE)

## MTC

- Roadway Maintenance Needs

## Caltrans

- Freeway Speed Runs, Duration of Freeway Congestion
- Accident Rates on State Freeways

## CMA

- Roadway Speeds on CMP, except free-ways
- Travel Times for Origin-Destination pairs

Local agencies are encouraged to provide these data to MTC or to maintain their own database of maintenance needs on the Metropolitan Transportation System. However, there are no compliance requirements for local agencies or transit operators related to the Performance Element.

## TRAVEL-DEMAND MANAGEMENT ELEMENT

While much of the CMP focuses on measurement and evaluation, an important part is the recommended use of “travel-demand manage-

ment” strategies (Chapter 5). These are designed to reduce the need for new highway facilities over the long term and to make the most efficient possible use of existing facilities. The travel-demand element also incorporates strategies to integrate air quality planning requirements with transportation planning and programming.

A balanced program requires actions that would be undertaken by local jurisdictions, the CMA, MTC, BAAQMD, Caltrans and local transit agencies. As required by state law, it promotes alternative transportation methods (carpools, vanpools, transit, bicycles, park and ride lots, etc.), promotes improvements in the jobs-housing balance, promotes other strategies such as flextime and telecommuting, and considers parking cash-out programs (paying employees who do not use parking).

The travel-demand management program includes four elements:

- The **Required Program** requires that local jurisdictions adopt and implement guidelines for site design that enhance transit, pedestrian and bicycle access.
- The **Countywide Program** includes actions by the CMA to support the efforts of local jurisdictions. Financial incentives such as the parking cash-out program, the Guaranteed Ride Home program, and support of telecommuting have been undertaken by the CMA.

- The **Regional Program** includes actions by MTC, BAAQMD and Caltrans to meet areawide needs. The regional program focuses primarily on financial support for those activities that ensure coordinated transit, HOV utilization, development and/or maintenance of park and ride lots, implementation of ramp metering and arterial, compliance with the American with Disabilities Act, and bicycle and pedestrian improvements.
- In recognition that the private sector also has a role in travel-demand management, elements of the **Comprehensive Program** include those actions that employers may take on a voluntary basis to promote and encourage alternative modes of travel.

Funding generally comes from the Transportation Fund for Clean Air (from fees on motor vehicle registration) and from the federal Surface Transportation Program and Congestion Mitigation and Air Quality Program. Taken together, the program represents a fiscally realistic program that would effectively complement the CMA's overall Congestion Management Program.

In order to be found in conformance with this element of the CMP, local jurisdictions must adopt and implement the Required Program by September 1 of each year.

## LAND-USE ANALYSIS PROGRAM

The CMP includes a program to analyze the impacts of land-use decisions made by local jurisdictions on regional transportation systems (Chapter 6). The program estimates the costs associated with mitigating those impacts, as well as providing credits for local public and private contributions to improving regional transportation systems.

Although land use remains the purview of local governments, the CMA can apply sanctions if

local agencies do not comply with the requirements of the law.

The intent of the land-use analysis program is to:

- better tie together local land-use and regional transportation facility decisions;
- better assess the impacts of development in one community on another community; and
- promote information sharing between local governments when the decisions made by one jurisdiction will have an impact on another.

The land-use analysis program in Alameda County is a process designed to improve upon decisions about land-use developments and the investment of public funds on transportation infrastructure in Alameda County. To work best, the CMA is involved at the very early stages of the land development process.

The CMA acts as a resource to local governments in analyzing the impacts of proposed land-use changes on regional transportation systems. This includes making travel-demand models available to be used to forecast the impact of proposed general plan amendments and other large-scale developments if the local jurisdiction publishes a Notice of Preparation for an environmental impact report. CMA staff could also be involved in discussing impact assessment approaches and impacts on the Metropolitan Transportation System.

The purpose of the CMA review is to assure that regional impacts are assessed, that appropriate mitigations are identified, and that an overall program of mitigations can be implemented. For purposes of the land-use program, the Metropolitan Transportation System is used to assess transportation impacts of land-use development.

Local jurisdictions will have the following responsibilities regarding the analysis of transportation impacts of land-use decisions:

- Responsible for modeling, using the most recent CMA-certified travel-demand model, all general plan amendments and large-scale projects consistent with general plans that meet the 100 p.m. peak-hour threshold. The results of the model shall be analyzed for impacts on the Metropolitan Transportation System and shall be incorporated in the environmental document.
- Forward to the CMA all notices of preparation, draft environmental impact reports/statements, final environmental impact reports/statements, and final disposition of the general plan amendment/development requests.
- Work with the CMA on the mitigation of development impacts on the metropolitan transportation system.
- Biennially provide an update (prepared by the jurisdiction's planning department) of the estimated land uses likely to occur by utilizing ABAG's most recent forecast for a near-term and far-term horizon year. This land-use information will be provided in a format that is compatible with the countywide travel model.

In addition, each local jurisdiction must demonstrate to the CMA that the land-use program is being carried out by September 1 of each year as part of the annual conformity process.

## **CAPITAL IMPROVEMENT PROGRAM**

The five-year Capital Improvement Program reflects the CMA's effort to maintain or

improve the performance of the multimodal transportation system for the movement of people and goods and to mitigate regional transportation impacts identified through the land-use analysis program (Chapter 7).

Per federal requirements, it considers methods to improve operation of the existing system, such as traffic operations systems, arterial signal timing, parking management, transit transfer coordination, and transit marketing programs. Projects selected for the Capital Improvement Program also are consistent with the assumptions, goals, policies, actions and projects identified in the Regional Transportation Plan, MTC's basic statement of Bay Area transportation policy.

The 2001 Alameda County Capital Improvement Program covers fiscal year 2001-02 to 2006-07 and is comprised of:

- Major capital projects and transit rehabilitation projects programmed in the 2000 State Transportation Improvement Plan and the last three years of the federal Transportation Equity Act for the 21<sup>st</sup> Century.
- Other major highway, transit and local projects intended to maintain or improve the performance of the CMP network.

The Capital Improvement Program also includes a list of projects needing a project study report. These reports are intended to identify project cost and scope, and are a requirement for a project before it can be included in the State Transportation Improvement Program.

The projects in the Capital Improvement Program are linked to the vision and projects presented in the *2001 Countywide Transportation Plan*. The Capital Improvement Program projects are taken from the 25-year plan either as a specific capital project or from funding set aside to cover categories of projects,

including maintenance and rehabilitation of local streets and roads, transit capital replacement, bicycle and pedestrian improvements, and operational improvements.

For the complete list of projects, please see the complete Capital Improvement Program in the CMP.

In order to be found in conformance with the CMP, local jurisdictions and project sponsors must, by February 1 of each odd-numbered year, submit to the CMA a list of projects intended to maintain or improve the level of service on the designated system to meet transit performance standards.

## **MONITORING, CONFORMANCE AND DEFICIENCY PLANS**

The CMA is responsible for annually monitoring the implementation of four elements of the CMP: level-of-service standards, the trip-reduction program, the land-use analysis program and whether the jurisdictions have submitted membership dues. Maintenance of level-of-service standards, adoption of travel-demand requirements, implementation of land-use analysis programs, and implementation of transportation-demand management measures are usually the responsibilities of local governments, but the CMA ensures that they are in “conformance,” or meeting the requirements of the CMP. To meet the requirements of the CMP, the following must occur.

Local jurisdictions have two travel-demand management requirements: adoption and implementation of site-design guidelines that enhance transit/pedestrian/bicycle access; and implementation of capital improvements that contribute to congestion management and emissions reduction.

The CMA is required to develop a program, for implementation by local agencies, that will analyze the impacts and determine mitigation costs of land-use decisions on the regional system

(Chapter 8). Local jurisdictions remain responsible for approving, disallowing, or altering projects and land-use decisions. The program must be able to determine land-development impacts on the Metropolitan Transportation System and formulate appropriate mitigation measures commensurate with the magnitude of the expected impacts.

The CMA is required to prepare and biennially update a Capital Improvement Program aimed at maintaining or improving transportation service levels. Each city, the county, transit operators and Caltrans will provide input to these biennial updates.

If level-of-service standards are not met, a deficiency plan must be developed that can be implemented to achieve the adopted level-of-service standards at the deficient segment or intersection, or to improve the level of service of the system and contribute to significant air quality improvements.

To determine conformance, CMA compares the monitoring information provided by local governments to the requirements of the adopted CMP. If a local jurisdiction is found to be in non-conformance, upon notification from the CMA, the local jurisdiction has 90 days to remedy the area(s) of non-conformance. Failure to address problems could adversely affect the jurisdiction’s eligibility for future funds.

## **Responsibilities**

Local governments are responsible for preparing and adopting deficiency plans-proposed methods for bringing areas that do not meet level-of-service standards up to par. However, they will need to consult with the CMA, Caltrans, local transit providers, and BAAQMD as they prepare their deficiency plans. Local public-interest groups and members of the private sector may also have an interest in the development of deficiency plans.

During the process of developing the plan, the

local agency will need to consider whether it is possible to make physical improvements to the deficient segment. It may not be possible to do so for a number of reasons, including cost, availability of real estate, public opposition and air quality plan conflicts.

However, in developing the deficiency plan, both local and system alternatives must be considered and described. Local governments and the CMA should consider the impact of the proposed deficiency plan on the CMP system. An action plan to implement the chosen alternative must also be provided. The selection of either alternative is subject to approval by the CMA, which must find the action plan in the interest of the public's health, safety and welfare.

## **DATABASE AND TRAVEL MODEL**

The CMA has developed a uniform land-use database for use in a countywide travel model (Chapter 9). The purpose of the database and travel model requirement is to bring to the congestion management decision-making process a uniform technical basis for analysis. This includes consideration of the benefits of transit service and transportation-demand management programs, as well as projects that improve congestion on the CMP-designated system. The modeling requirement is also intended to assist local agencies in assessing the impacts of new development on the transportation system.

The database developed for use with the countywide travel model is based on data summarized in the *Projections '2000* report prepared by the Association of Bay Area Governments (ABAG). Projections of socioeconomic variables were made for the traffic analysis zones defined for Alameda County. By aggregating the projections made for each zone, the CMA can produce projections of socioeconomic characteristics for unincorporated areas of the county, the 14 cities and for the four planning areas for Alameda County. The four planning areas are as follows:

- Planning Area 1 consists of the cities of Albany, Berkeley, Emeryville, Oakland, Alameda and Piedmont;
- Planning Area 2 consists of San Leandro, Hayward, and the unincorporated areas of Castro Valley, Ashland and San Lorenzo;
- Planning Area 3 consists of Union City, Newark and Fremont; and
- Planning Area 4 consists of Pleasanton, Dublin, Livermore and the unincorporated areas of east County.

## **CONCLUSIONS AND IMPLEMENTATION ISSUES**

The Congestion Management Program (CMP) has several interrelated elements intended to foster better coordination among decisions about land development, transportation and air quality. Several conclusions can be reached about the CMP relative to the requirements of law and its purpose and intent (Chapter 10). Specifically, the CMP:

1. Contributes to maintaining or improving transportation service levels.
2. Conforms to MTC's criteria for consistency with the Regional Transportation Plan.
3. Provides a travel model whose specifications and output are consistent with MTC's regional model.
4. Is consistent with MTC's Transportation Control Measures Plan.
5. Specifies a method for estimating roadway level of service which is consistent with state law.



6. Identifies candidate projects for the Regional Transportation Improvement Program and federal *Transportation Improvement Program*.
7. Has been developed in cooperation with the cities, the county of Alameda, transit operators, the BAAQMD, MTC, adjacent counties, Caltrans and other interested parties.
8. Provides a forward-looking approach to dealing with the transportation impacts of local land-use decisions.

During the development and update of the CMP for Alameda County, several issues have been uncovered which will need further action by the CMA.

1. Funding to support the CMP, including adequate capital resources and CMA/local government funding
2. Ability of the CMA to influence transportation investment when most transportation funding programs are beyond the purview of the CMP legislation
3. Responsibility for monitoring and maintenance of level of service on the state highway system
4. Potentially conflicting goals of the CMP and air quality programs
5. Review and update of the CMP network
6. Transportation revenue shortfalls
7. Continued improvement of the land-use analysis program
8. Update of CMP-designated routes and how to add roadways to the system

9. Congestion pricing strategies
10. Update of TDM Checklist

Please refer to the complete Congestion Management Program for more specific information regarding these issues.